UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/914,894 | 09/04/2001 | Amichai Heines | 118/02339 | 6029 |

26418 7590 11/13/2003

REED SMITH, LLP
ATTN: PATENT RECORDS DEPARTMENT
599 LEXINGTON AVENUE, 29TH FLOOR
NEW YORK, NY 10022-7650

| EXAMINER | |
|---|---|
| ABDULSELAM, ABBAS I | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2674 | 5 |

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/914,894 | HEINES ET AL. | |
| | Examiner | Art Unit | |
| | Abbas I Abdulselam | 2674 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *31 and 33-65* is/are allowed.

6)☐ Claim(s) *1-3 and 66-70* is/are rejected.

7)☐ Claim(s) *4-30 and 32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3 are rejected under the judicially created doctrine of double patenting over claims 1, 68, 69 of U. S. Patent No. 6600474 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

Claim 1 of the present application is met by claim 1 of the patent. It would have been obvious that “a visual display comprising a plurality of pixels” as used in the present application is equivalent and corresponds to “a plurality of pixel structures for use in a visual display” as used in the patent.

Claim 2 of the present application is met by claim 68 of the patent. It would have been obvious that over “over 135 degree” as used in the present application is equivalent and corresponds to “less than 180” as used in the patent.

Claim 3 of the present application is met by claim 70 of the patent. It would have been obvious that "over 160 degree" as used in the present application is equivalent and corresponds to "greater than 160 degree" as used in the patent.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

### *Allowable Subject Matter*

2. Claims 4-30 and 32, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. Claims 31 and 33-65 are allowed.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Webb (USPN 5447600).

Regarding claim 66, Webb discloses a micro-mechanical device (10) including semiconductor substrate (12), landing electrodes (14), address electrodes (16), and support posts

(18) supporting deflectable beam (20) and suspending deflectable beam (20) over the landing electrodes (14) and address electrodes (16). Webb illustrates the device or otherwise known as deformable mirror device (10) in its deflected position (Fig. 1) when the voltage is applied between deflectable beam (20) and one of the address electrodes (16). Webb further teaches that the voltage applied normally causes deflectable beam to deflect toward the address electrode (16) and contact the immediately adjacent landing electrode (14), and when the voltage is removed, the deflectable beam returns to its undeflected position. See col. 2, lines 26-49. Webb does not specifically teach flipping the panel by applying a voltage. However, as mentioned above, Webb discloses voltage application to cause the deflectable beam to deflect so that an adjacent electrode is contacted.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Webb's voltage application for the purpose of making an adjacent contact. One would have been motivated in view of the suggestion that voltage application can be equivalently used to obtain the desired flipping of the panel.

5. Claims 67-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Webb in view of Park et al. (USPN 5753817).

Regarding claims 67-68, Webb has been described above. However, Webb does not teach counteracting stiction by vibration. Park on the other hand teaches a vibratory structure (34) that is driven by the electrostatic force generated from driving electrode (32) arranged on a substrate.

Park teaches that a phenomenon of vibratory structure (34) sticking to the substrate due to the electrostatic force of the vertical component can be prevented. See col. 7, lines 33-45 and Fig. 3B

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify Webb's micro-mechanical device to adapt park's vibratory structure (34). One would have been motivated in view of the suggestion in Park that the vibratory structure (34) as configured in Fig. 3(A-B) equivalently provides the desired vibration preventing stiction. The use of vibratory structure helps form a microgryroscope including a substrate as taught by Park.

Regarding claim 68, in addition to what has been discussed, Park teaches that when a driving voltage is applied to driving electrode (32) and a bias voltage is applied to first sensing electrode (31), the electrostatic force f.sub.b in the vertical direction can be expressed by equation (5). See col. 7, lines 41-47.

Regarding claims 69-70, Park teaches electrostatic force with respect to electrodes (31, 32) expressed in mathematical expression as shown in col. 7, lines 45-50.

**Conclusion**

6. The prior art made of record and not relied upon is considered to applicant's disclosure. The following arts are cited for further reference.

U.S. Pat. No. 5,922,242 to Saishu et. al.

U.S. Pat. No. 5,825,405 to Yuyame et. al.

7. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulselam** whose telephone number is **(703) 305-8591.** The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709.**

**Any response to this action should be mailed to**:

Commissioner of patents and Trademarks

Washington, D.C. 20231

**or faxed to**:

**(703) 872-9314**

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Abbas Abdulselam

Examiner

Art Unit 2674

November 7, 2003